Illinois Environmental Protection Agency

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Leaking Underground Storage Tank Program
SSL Input Parameters for Use with Tier 2 Calculations

A. Site Identification

IEMA Incident # (6- or 8-digit): _____   IEPA LPC # (10-digit): _____

Site Name: _____

Site Address (not a P.O. Box): _____

City: _____   County: _____   Zip Code: _____

Leaking UST Technical File

B. Tier 2 Calculation Information

Equation(s) Used (ex: S12, S17, S28): _____

Contact Information for Individual Who Performed Calculations:

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Land Use: _____   USDA Soil Type: _____

Groundwater: ◯ Class I   ◯ Class II

Mass Limit: ◯ Yes   ◯ No   If Yes, then specify acreage: ◯ 0.5   ◯ 1   ◯ 2   ◯ 5   ◯ 10   ◯ 30

- Mass Limit Acreage other than defaults must always be rounded up.
- Failure to use site-specific parameters where allowed could affect payment from the Underground Storage Tank Fund.
- Maps depicting source width, plume dimensions, distance, etc. must also be submitted.
- Inputs must be submitted in the designated unit.

Symbol		Units
AT (ingestion)	=	yr
AT (inhalation)	=	yr
AT_c	=	yr
BW	=	kg
C_{sat}	=	mg/kg
C_w	=	mg/L
d	=	m

Symbol		Units
d_a	=	m
d_s	=	m
D_A	=	cm^2/s
D_i	=	cm^2/s
D_w	=	cm^2/s
DF	=	unitless
ED (ingestion of carcinogens)	=	yr

Symbol		Units
ED (inhalation of carcinogens)	=	yr
ED (ingestion of noncarcinogens)	=	yr
ED (inhalation of noncarcinogens)	=	yr
ED (ingestion of groundwater)	=	yr
ED_{M-L}	=	yr
EF	=	d/yr
F(x)	=	unitless
f_{oc}	=	g/g
GW_{obj}	=	mg/L
H'	=	unitless
i	=	m/m
I	=	m/yr
I_{M-L}	=	m/yr
$IF_{soil-adj}$	=	(mg-yr)/(kg-d)
IR_{soil}	=	mg/d
IR_w	=	L/d
K	=	m/yr
K_d (non-ionizing organics)	=	cm³/g or L/kg
K_d (ionizing organics)	=	cm³/g or L/kg
K_d (inorganics)	=	cm³/g or L/kg

Symbol		Units
K_{oc}	=	cm³/g or L/kg
K_s	=	m/yr
L	=	m
PEF	=	m³/kg
PEF'	=	m³/kg
Q/C (VF equations)	=	(g/m²-s)/ (kg/m³)
Q/C (PEF equations)	=	(g/m²-s)/ (kg/m³)
RfC	=	mg/m³
RfD_o	=	mg/(kg-d)
S	=	mg/L
SF_o	=	$(mg/kg-d)^{-1}$
T	=	s
T_{M-L}	=	yr
THQ	=	unitless
TR	=	unitless
U_m	=	m/s
URF	=	$(µg/m³)^{-1}$
U_t	=	m/s
V	=	unitless
VF	=	m³/kg

Incident #: _____   Chemical: _____   Land Use: _____

Symbol		Units
VF'	=	m^3/kg
VF$_{M-L}$	=	m^3/kg
VF'$_{M-L}$	=	m^3/kg
η	=	L_{pore}/L_{soil}
θ_a	=	L_{air}/L_{soil}

Symbol		Units
θ_w	=	L_{water}/L_{soil}
ρ_b	=	kg/L or g/cm^3
ρ_s	=	g/cm^3
ρ_w	=	g/cm^3
$1/(2b+3)$	=	unitless

Equation		Units
S1	=	mg/kg
S2	=	mg/kg
S3	=	mg/kg
S4	=	mg/kg
S5	=	mg/kg
S6	=	mg/kg
S7	=	mg/kg
S17	=	mg/kg
S28	=	mg/kg
S29	=	mg/kg